Figure 1

			9															
5'								CAG								GAA	GAC	TGG
			63			72												100
	ACA	AAG		GTC				TTC										
																	•	
																		162
								ATG				CCC	AAT	GGC	AAT	GAA	TCC	AGT
								м					~~~					
								M	М	٧	ט	P	N	G	N	Ŀ	5	3
			171			180			189			198			207			216
	GCT	ACA	TAC	TTC	ATC	CTA	ATA	GGC	CTC	CCT	GGT	TTA	GAA	GAG	GCT	CAG	TTC	TGG
	A	T	Y	F	Ι	L	I	G	L	P	G	L	E	E	A	Q	F	W
			225			234			243			252			261			270
	TTG	GCC		CCA	TTG		TCC	CTC				-		CTA	-		TTG	
	L	A	F	P	L	С	s	L	Y	L	I	A	v	L	G	N	L	T
			070			200			007			200			215			204
	ልጥር	ልሞር	279	יויידי ב	GTG.			GAG	_	AGC			GAG			ጥልጥ		
	I	I	Y	I	v	R	T	E	H	s	L	H	E	P	M	Y	. I	F
	CTT	TGC	ATG	CTT	TCA	GGC	ATT	GAC	ATC		ATC	TCC	ACC	TCA	TCC	ATG	CCC	AAA
	L	С	м	L	S	G	I	D			T	S	т	S	S	м	P	ĸ
		_																
			387															
	ATG	CTG	GCC	ATC				AAT				ATC	CAG	TTT	GAT	GCT	TGT	CTG
								N										
	М		^	-	£	"	£	14	3	1		1	Q	E	ע	A	C	ъ
			441			450			459			468			477			486
	CTA	CAG	ATT	TTT				TCC	TTA	TCT	GGC	ATG	GAA	TCC	ACA	GTG	CTG	CTG
	L	Q	I	F	A	1	н	S	L	S	G	M	E	S	Т	V	L	L
			495			504			513			522			531			540
	GCC	ATG						GTG									GCC	
	A	M	A	F	D	R	Y	V	A	I	С	H	P	L	R	H	A	T
			549			558			E 67			576			EOE			E04
	GTA	СТТ		ጥጥር	ССТ		GTC	ACC	567		ССТ	576 GTG	ССТ	ССТ	585 СТС	CTC.	ccc	594 GGG
	v	L	T	L	P	R	v	T	K	I	G	v	A	A	v	v	R	G
		~~~	603		003	612	-	~~~	621	mm *		630		050	639	<b></b> -	mc	648
	GCT	GCA	CTG	ATG	GCA		CTT	CCT	GTC	TTC	ATC	AAG	CAG	CTG		TTC	TGC	CGC
	A	A	L	M	A	P	L	P	v	F	I	ĸ	Q	L	P	F	С	R

TC	C AAT	657 ATC	СТТ	TCC		TCC					684 CAA		GTC	693 ATG		CTG	702 GCC
	<b></b>																
S	N	I	L	s	H	S	Y	С	L	Н	Q	D	v	M	K	L	A
		711			720			729			738			747			756
TG	T GAT	GAT	ATC	CGG	GTC	AAT	GTC	GTC	TAT	GGC	CTT	ATC	GTC	ATC	ATC	TCC	GCC
 c	 D			 R					 Y	 G							
C	D	ט		R	V	N	V	V	1	G	L	I	V	Ι	I	S	A
		765			774			783			792			801			810
AT	r GGC	CTG	GAC	TCA	CTT	CTC	ATC	TCC	TTC	TCA	TAT	CTG	CTT	ATT	CTT	AAG	ACT
I	 G	L	D	s	L	L	I	s	F	s	Y	L	L		L	ĸ	т
				_		_	_	Ĭ	_	-	_	_	_	_	_	••	-
CIT.	- mma	819	mmo		828	~~~	200	837			846			855			864
-GT	G TTG		TTG	ACA	CGT	GAA	GCC	CAG	GCC	AAG	GCA		GGC	ACT	TGC	GTC	TCT
v	L	G	L	T	R	E	A	Q	A	K	A	F	G	T	С	v	s
		070															
CA	r GTG	873 TGT	GCT	GTG	882 TTC	АТА	TTC	891 TAT	GTA			ATT		909 TTG	TCC	ATG	918 °
H	v	С	A	v	F	I	F	Y	V	P	F	I	G	L	S	M	v
		927			936			945			954			963			972
CA	r cgc	TTT	AGC	AAG	CGG	CGT	GAC		CCG	CTG					GCC	AAT	
H	R	F	S	K	R	R	D	S	P	ь	P	٧	Ι	L	A	N	I
		981			990			999		1	1008		1	L017		1	L <b>026</b>
TA'	r ctg	CTG	GTT	CCT	CCT	GTG	CTC	AAC	CCA	ATT	GTC	TAT	GGA	GTG	AAG	ACA	AAG
Y	L	L	v	P	P	v	L	N	P	1	V	Y	G	v	K	T	K
Y			V			V						Y			K		
	:	1035		1	1044		1	L053		1	1062		1	L071		1	1080
		1035		1	1044		1	L053		1	1062		1	L071		1	1080
GA	:	1035 CGA	CAG	CGC	044 ATC	CTT	1	L053 CTT		CAT	1062	GCC	1	L071 CAC		1	080 GAG
GA	G ATT	1035 CGA	CAG  Q	CGC  R	ATC	CTT  L	CGA  R	CTT  L	TTC  F	CAT  H	GTG V	GCC  A	ACA T	LO71 CAC  H	GCT  A	TCA  S	GAG
GA E	G ATT	1035 CGA  R 1089	CAG  Q	CGC  R	1044 ATC  I	CTT  L	CGA  R	CTT L	TTC  F	CAT  H	062 GTG  V	GCC  A	ACA T	L071 CAC  H	GCT  A	TCA  S	1080 GAG  E
GA E	G ATT	1035 CGA  R 1089	CAG  Q	CGC  R	1044 ATC  I	CTT  L	CGA  R	CTT L	TTC  F	CAT  H	062 GTG  V	GCC  A	ACA T	L071 CAC  H	GCT  A	TCA  S	1080 GAG  E
GA E	G ATT	1035 CGA  R 1089	CAG  Q	CGC  R	1044 ATC  I	CTT  L	CGA  R	CTT L	TTC  F	CAT  H	062 GTG  V	GCC  A	ACA T	L071 CAC  H	GCT  A	TCA  S	1080 GAG  E
GA E CCC	G ATT I C TAG	1035 CGA  R 1089 GTG 	CAG  Q TCA	CGC R	1044 ATC  I 1098 ATC	CTT L AAA	CGA R R CTT	L 107 CTT CTT 	TTC F TTC	CAT H CAT	U062 GTG  V 1116 TCA 	GCC  A GAG	ACA T TCC	L071 CAC  H L125 TCT 	GCT A A GAT	TCA S TCA TCA	1080 GAG  E 1134 GAT 
GAGE CCG	G ATT I C TAG	1035 CGA  R 1089 GTG 	CAG Q TCA	CGC R GTG	1044 ATC  I 1098 ATC 	CTT L AAA	CGA R CTT	LO53 CTT L LO7 CTT 	TTC F TTC	CAT H CAT	U062 GTG V 1116 TCA 	GCC  A GAG 	ACA T TCC	LO71 CAC H L125 TCT 	GCT A GAT	TCA S TCA 	1080 GAG  E 1134 GAT 
GAGE CCG	G ATT I C TAG	1035 CGA R 1089 GTG 	CAG Q TCA	CGC R GTG	1044 ATC I 1098 ATC 	CTT L AAA	CGA R CTT	LO53 CTT L LO7 CTT 	TTC F TTC	CAT H CAT	U062 GTG V 1116 TCA 	GCC  A GAG 	ACA T TCC	H 1125 TCT 	GCT A GAT 	TCA S TCA TCA TCA	1080 GAG  E 1134 GAT 
GACCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	G ATT I C TAG * T AAT	1035 CGA R 1089 GTG  1143 GTT  1197 AAC	CAG Q TCA AAC TCA	CGC R GTG	1098 ATC 1152 TTG 206 CCT	CTT L AAA GAA TCA	CGA R CTT 	L 107 CTT  L 161 AGT  L 215 ATG	TTC F TTC 	CAT H CAT CAT CAG CAG	1062 GTG  V 1116 TCA  1170 AAA	GCC A GAG 	ACA T TCC	L071 CAC  H L125 TCT  L179 TTC  L233	GCT A GAT 	TCA S TCA TCA TCA	1080 GAG  E 1134 GAT  1188 AAA 
GACCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	G ATT I C TAG * T AAT A TAC	1035 CGA  R 1089 GTG  1143 GTT  1197 AAC	CAG Q TCA AAC TCA	CGC R	1044 ATC I 1098 ATC  152 TTG  206 CCT	CTT L AAA GAA	CGA R CTT 	L107 CTT  L161 AGT  L215 ATG	TTC F TTC	CAT H CAT CAG CAG	116 TCA  1170 AAA  1224 GTT	GCC A GAG	ACA T TCC	1071 CAC  H 1125 TCT  1179 TTC  1233 TCT	GCT A GAT CTT CCA	TCA S TCA S TTA	134 GAT  188 AAA  1242
GAACCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	G ATT I C TAG * T AAT A TAC	1035 CGA  R 1089 GTG  1143 GTT  1197 AAC	CAG Q TCA AAC TCA	GTG ATT GAT	1044 ATC  I 1098 ATC  206 CCT  260	CTT L AAA GAA	CGA R CTT GAC	L 107 CTT  L 1107 CTT  L 161 AGT  L 215 ATG	TTC F TTC	CAT H CAT CAT CAG CTG	116 TCA  170 AAA  224 GTT	GCC A GAG	ACA TCC AAT GAA	L071 CAC H L125 TCT  L233 TCT	GCT A GAT CTT	TCA S TCA TCA TCA TTTA TTTT	1080 GAG ——————————————————————————————————
GAA	G ATT  I C TAG  * TAT  A TAC	1035 CGA R 1089 GTG  1143 GTT  1197 AAC  1251 TAT	CAG Q TCA TCA TCA	GTG ATT GAT	1044 ATC  I 1098 ATC  206 CCT  260 CTT	CTT L AAA GAA TCA	CGA R CTT GAC	1053 CTT L 1107 CTT  215 ATG  269 CTT	TTC F TTC	CAT H CAT CAT CAG CAG ACA	116 TCA  170 AAA  224 GTT  278	GCC A GAG GGG	ACA TCC AAT GAA TAT	1071 CAC H 1125 TCT  1233 TCT  1287	GCT A GAT CTT CCA TAC	TCA S TCA TCA TTA TTT TTT CCT	1080 GAG E 1134 GAT  188 AAA  1242 TTT  296 GAC
GAAAA	G ATT  I C TAG  * TAT  A TAC	1035 CGA R 1089 GTG  1143 GTT  1251 TAT  1305	CAG Q TCA TCA TTT	GTG ATT GAT CTT	1044 ATC  I 1098 ATC  206 CCT  260 CTT  314	CTT L AAA GAA TCA	CGA R CTT GAC  AAT TTT	1053 CTT L 1107 CTT  215 ATG  269 CTT	TTC F TTC	CAT H CAT CAT CAG CAG ACA	116 TCA  170 AAA  224 GTT  278 TAT	GCC A GAG GGG AAT	ACA TCC AAT GAA TAT	1071 CAC H 1125 TCT  1233 TCT  1287 TAA	GCT A GAT CTT CCA TAC	TCA S TCA TCA TCA TTTA TTTT TTTT TTTT TT	1080 GAG  E 1134 GAT  1288 AAA  1242 TTT  296 GAC  350

1359	-	1368	1	377		1306	1	305	1404
									ACA TCT AGA
1413		1422		1431		1440		1449	1458
									GAA TAT AAT
1467		1476		1485		1494		1503	1512
AAA ATG AGA	TAA	TCT AGC	TTA	AAA CTA	TAA	CTT CCT	CTT	CAG AAC	TCC CAA CCA
1521		1530							
CAT TGG ATC	TCA			TGT CTT	CAA	AAT GAC	TTC	TAC AGA	GAA GAA ATA
. 1575						1602		1611	1620
									AGC CTT GAA
1629		1638		1647		1656		1665	1674
AAG AGT ACA									AGA GTT TTC
1683		1692				1710		1719	
ACA GCA TAT	GGA								CTT TAA TTA
1737		1746							
GGC AAA GAT	ATT	ATT AGT	ACC	CTC ATT	GTA	GCC ATG	GGA	AAA TTG	ATG TTC AGT
1791		1800		1900		1818		1827	1836
	тса								AAA AAA AAA
1845		1854		1863		1872		1881	1890
GAC TTC ATG	CCC	AAT CTC							ACC AAC AGG
1899		1908				1926			
GTA GTG GGT	TAG	AGA TTT	CCA	GAG TCT	TAC	ATT TTC	TAG	AGG AGG	TAT TTA ATT
1953		1962							1998
TCT TCT CAC	TCA	TCC AGT	GTT	GTA TTT	AGG	AAT TTC	CTG	GCA ACA	GAA CTC ATG
2007		2016		2025		2034		2043	2052
									AAT TAC CTG
2061		2070		2079		2088		2097	2106
TGT CTT GGA	AGA	AGT GAT							TTA TTC AGA
2115		2124		2133		2142		2151	
AAG TCT GCA	TAG	GGC TTA	TAG	CAA GTT	ATT	TAT TTT	TAA	AAG TTC	CAT AGG TGA
01.60		0170		0107		0106			
2169		2178							2214 GTA TGG AAT
TIC IGA IAG	GCA	GIG AGG		GGG AGC	CAC	CAG IIA	TGA	TGG GAA	GIA IGG AAI
2223		2232		2241	•	2250		2259	2268
									CTG GAA AGT
2277		2286		2295		2304		2313	2322
GAG GGA ATC	TTC	AGG ACC	ATG	CTT TAT	TTG	GGG CTT	TGT	GCA GTA	TGG AAC AGG
									2376
GAC TTT GAG							GGG	AAT CAG	GCA TTT TTG

FIG. 2D

	238	5		2394	4		240	3		2412	2		2421	L		2430	)
CTT								TTA									
								2457									
CAA	CAG	TGT	TAA	CCA	AGA	AAC	TCA	AAT	TAC	AAA	TAC	TAA	AAC	ATG	TGA	TCA	TAT
	,															,	
አጥር		2493			2502			2511 TCA								CAT.	
											AGG			GAI			
	2	2547		:	2556			2565		:	2574		2	2583		2	2592
TAT	AAC	ATG	CTT	TCA	TCC	CCT	TTT	GTA	ATG	GAT	ATC	ATA	TTT	GGA	AAT	GCC	TAT
	_	2601						2619					_				2646
TTA	ATA	CTT	GTA	TTT	GCT	GCT	GGA	CTG	TAA	GCC	CAT	GAG	GGC	ACT	GTT	TAT	TAT
	,	2655						 2673		,	2692		,				2700
TGA								GAC								_	
	2	2709		2	2718			2727		:	2736		2	2745		2	2754
AGC	AAA	GTG	CCT	AGA	ACA	TAA	TAG	TGC	TTA	TGC	TTG	ACA	CCG	GTT	ATT	TTT	CAT
C3.3	_	2763		_	2772		-	2781		_			_				2808
CAA	_			_			-	2781 ACA		_			_				
CAA	ACC		TTC	CTT	CTG	TCC	TGA	ACA	CAT	AGC	CAG	GCA	ATT	TTC	CAG	CCT	
	ACC	TGA  2817	TTC	CTT	CTG  2826	TCC	TGA		CAT	AGC	CAG  2844	GCA	ATT	TTC  2853	CAG	CCT	TCT  2862
	ACC	TGA  2817	TTC	CTT	CTG  2826	TCC	TGA	ACA  2835 GGC	CAT	AGC 	CAG  2844 TTC	GCA  CAA	ATT	TTC  2853 GAG	CAG  TGG	CCT	TCT  2862
TTG	ACC  AGT	TGA  2817 TGG  2871	TTC	TTA	CTG  2826 TTA  2880	TCC  AAT	TCT	ACA  2835 GGC  2889	CAT CAT	AGC TAC	CAG  2844 TTC  2898	GCA CAA	ATT TGT	TTC  2853 GAG  2907	CAG  TGG	AAG	TCT  2862 TGA  2916
TTG	ACC  AGT	TGA  2817 TGG  2871	TTC	TTA	CTG  2826 TTA  2880	TCC  AAT	TCT	ACA  2835 GGC	CAT CAT	AGC TAC	CAG  2844 TTC  2898	GCA CAA	ATT TGT	TTC  2853 GAG  2907	CAG  TGG	AAG	TCT  2862 TGA  2916
TTG	ACC  AGT 	TGA  2817 TGG  2871 CAA	TTC GTA TTT	CTT TTA CTA	CTG  2826 TTA  2880 TAC	TCC AAT CTG	TCT	ACA  2835 GGC  2889 CAT	CAT CAT AAA	AGC TAC	CAG  2844 TTC  2898 CTC	GCA CAA  CCA	TGT	TTC  2853 GAG  2907 GCA	CAG TGG GCC	AAG	TCT  2862 TGA  2916 CAT
TTG	ACC  AGT  GTG	TGA  2817 TGG  2871 CAA 	TTC GTA TTT	CTT TTA CTA	CTG  2826 TTA  2880 TAC 	TCC AAT CTG	TGA TCT GCT	ACA  2835 GGC  2889 CAT 	CAT CAT	AGC TAC	CAG  2844 TTC  2898 CTC  2952	GCA  CAA 	TGT	TTC  2853 GAG  2907 GCA  2961	CAG TGG GCC	AAG	TCT  2862 TGA  2916 CAT 
TTG	ACC  AGT  GTG	TGA  2817 TGG  2871 CAA 	TTC GTA TTT	CTT TTA CTA	CTG  2826 TTA  2880 TAC 	TCC AAT CTG	TGA TCT GCT	ACA  2835 GGC  2889 CAT	CAT CAT	AGC TAC	CAG  2844 TTC  2898 CTC  2952	GCA  CAA 	TGT	TTC  2853 GAG  2907 GCA  2961	CAG TGG GCC	AAG	TCT  2862 TGA  2916 CAT 
TTG	ACC AGT GTG GAC	TGA  2817 TGG  2871 CAA 	TTC GTA TTT AAA	CTT TTA CTA TGT	CTG  2826 TTA  2880 TAC  2934 GAC	TCC AAT CTG TTG	TGA TCT GCT GGA	ACA  2835 GGC  2889 CAT 	CAT CAT AAA TAT	AGC TAC ACC GTG	CAG  2844 TTC  2898 CTC  2952 TTA	GCA CAA CCA CCA CAC	TGT TGT AGA	TTC  2853 GAG  2907 GCA  2961 GTA	CAG TGG GCC AAT	AAG TTT CAC	TCT  2862 TGA  2916 CAT 
TTG CAT GTT	ACC AGT GTG GAC	TGA 2817 TGG 2871 CAA 2925 ATT 2979	TTC GTA TTT AAA	CTT TTA CTA TGT	CTG  2826 TTA  2880 TAC  2934 GAC  2988	TCC AAT CTG TTG	TGA TCT GCT	ACA  2835 GGC  2889 CAT  2943 AGC	CAT CAT AAA TAT	AGC TAC ACC GTG	CAG  2844 TTC  2898 CTC  2952 TTA  3006	CAA CCA CAC	TGT AGA	TTC 2853 GAG 2907 GCA 2961 GTA 3015	CAG TGG GCC AAT	AAG TTT CAC	TCT 2862 TGA 2916 CAT 2970 CAG 3024
TTG CAT GTT	ACC AGT GTG CCT	TGA 2817 TGG 2871 CAA 2925 ATT 2979 GGA	TTC GTA TTT AAA TTTT	CTT TTA CTA TGT CTG	CTG 2826 TTA  2880 TAC  2934 GAC  2988 AAA	AAT CTG TTG	TGA TCT GCT GCT CTG	ACA  2835 GGC  2889 CAT  2943 AGC  2997 TGC	CAT CAT AAA TAT AGA	AGC TAC ACC GTG GCC	CAG  2844 TTC  2898 CTC  2952 TTA  3006 AAA	CAA CCA CAC CAC CCT	TGT TGT AGA CTG	TTC 2853 GAG 2907 GCA 2961 GTA 3015 TCA	CAG TGG GCC AAT TTT TTT	AAG TTT CAC	TCT 2862 TGA 2916 CAT 2970 CAG 3024 ACT
TTG CAT GTT AAG	ACC AGT GTG CCT	TGA 2817 TGG 2871 CAA 2925 ATT 2979 GGA 3033	TTC GTA TTT AAA TTTT	CTT TTA CTA TGT CTG	CTG 2826 TTA  2880 TAC  2934 GAC  2988 AAA  3042	TCC AAT CTG TTG	TGA TCT GCT GGA CTG	ACA  2835 GGC  2889 CAT  2943 AGC  2997 TGC  3051	CAT CAT AAA TAT AGA	AGC TAC ACC GTG GCC	CAG 2844 TTC 2898 CTC 2952 TTA 3006 AAA	CAA CCAC CCCT CCT	TGT TGT AGA CTG	TTC 2853 GAG 2907 GCA 2961 GTA 3015 TCA 3069	CAG TGG GCC AAT TTT TTT	AAG TTT CAC	TCT 2862 TGA 2916 CAT 2970 CAG 3024 ACT 3076
TTG CAT GTT AAG	ACC AGT GTG CCT	TGA 2817 TGG 2871 CAA 2925 ATT 2979 GGA 3033	TTC GTA TTT AAA TTTT	CTT TTA CTA TGT CTG	CTG 2826 TTA  2880 TAC  2934 GAC  2988 AAA  3042	TCC AAT CTG TTG	TGA TCT GCT GGA CTG	ACA  2835 GGC  2889 CAT  2943 AGC  2997 TGC	CAT CAT AAA TAT AGA	AGC TAC ACC GTG GCC	CAG 2844 TTC 2898 CTC 2952 TTA 3006 AAA	CAA CCAC CCCT CCT	TGT TGT AGA CTG	TTC 2853 GAG 2907 GCA 2961 GTA 3015 TCA 3069	CAG TGG GCC AAT TTT	AAG TTT CAC	TCT 2862 TGA 2916 CAT 2970 CAG 3024 ACT 3076
TTG CAT GTT AAG	ACC AGT GTG GAC CCT ACT	TGA 2817 TGG 2871 CAA 2925 ATT 2979 GGA 3033 TGT	TTC GTA TTT AAA TTT TTT ATT	CTT  TTA  CTA  TGT  CTG  TGT	CTG 2826 TTA 2880 TAC 2934 GAC 2988 AAA 3042 ACG	TCC AAT CTG TTG AAA	TGA TCT GCT GGA CTG CAG	ACA 2835 GGC 2889 CAT 2943 AGC 2997 TGC 3051 TTG	CAT CAT AAA TAT AGA GAT	AGC TAC ACC GTG GCC AAG	CAG 2844 TTC 2898 CTC 2952 TTA 3006 AAA 3060 TGA	CAA CCA CAC CCT AAA	TGT TGT AGA CTG	TTC  2853 GAG  2907 GCA  2961 GTA  3015 TCA  3069 AAG	CAG TGG GCC AAT TTT TTT TAC	AAG TTT CAC GCA TAT	TCT 2862 TGA 2916 CAT 2970 CAG 3024 ACT 3076
CAT GTT AAG CCC	ACC AGT GTG GAC CCT ACT	TGA 2817 TGG 2871 CAA 2925 ATT 2979 GGA 3033 TGT	TTC GTA TTT AAA TTT TTT ATT	CTT TTA CTA TGT TGT	CTG 2826 TTA 2880 TAC 2934 GAC 2988 AAA 3042 ACG 3096	TCC AAT CTG TTG AAA AGG	TGA TCT GCT GGA CTG	ACA  2835 GGC  2889 CAT  2943 AGC  2997 TGC  3051	CAT CAT AAA TAT AGA GAT	AGC GTG GCC	CAG 2844 TTC 2898 CTC 2952 TTA 3006 AAA 3060 TGA 3114	GCA CCA CAC CCT AAA	TGT TGT AGA CTG	TTC 2853 GAG 2907 GCA 2961 GTA 3015 TCA 3069 AAG 3123	CAG TGG GCC AAT TTT TTT TAC	AAG TTT CAC GCA TAT	TCT 2862 TGA 2916 CAT 2970 CAG 3024 ACT 3076 TGT 3132

AAA A 3'

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Figure 3: Protein Sequence for 101P3A11.

MVDPNGNESSATYFILIGLPGLEEAQFWLAFPLCSLYLIAVLGNLTIIYIVRTEHSLHEPMYIFLCMLSGIDILISTS SMPKMLAIFWFNSTTIQFDACLLQIFAIHSLSGMESTVLLAMAFDRYVAICHPLRHATVLTLPRVTKIGVAAVV RGAALMAPLPVFIKQLPFCRSNILSHSYCLHQDVMKLACDDIRVNVVYGLIVIISAIGLDSLLISFSYLLILKTVL GLTREAQAKAFGTCVSHVCAVFIFYVPFIGLSMVHRFSKRRDSPLPVILANIYLLVPPVLNPIVYGVKTKEIRQRI LRLFHVATHASEP

## Figure 4

## Alignment of 101P3A11 (Sbjct) with mouse olfactory receptor S25 (Query)

- Query: 34 GNYTVVTEFILLGLTDDITVSVILFVMFLIVYSVTLMGNLNIIVLIRTSPQLHTPMYLFL 93 GN + T FIL+GL L +Y + ++GNL II ++RT LH PMY+FL Sbjct: 6 GNESSATYFILIGLPGLEEAQFWLAFPLCSLYLIAVLGNLTIIYIVRTEHSLHEPMYIFL 65 Query: 94 SHLAFLDIGYSSSVTPIMLRGFLRKGTFIPVAGCVAQLCIVVAFGTSESFLLASMAYDRY 153 L+ +DI S+S P ML F T I C+ Q+ + + ES +L +MA+DRY Sbjct: 66 CMLSGIDILISTSSMPKMLAIFWFNSTTIQFDACLLQIFAIHSLSGMESTVLLAMAFDRY 125 Query: 154 VAICSPLLYSTQMSSTVCILLVGTSYLGGWVNAWIFTGCSLNLSFCGPNKINHFFCDYSP 213 VAIC PL ++T ++ + + G L FC N ++H +C + Sbjct: 126 VAICHPLRHATVLTLPRVTKIGVAAVVRGAALMAPLPVFIKQLPFCRSNILSHSYCLHQD 185 Query: 214 LLKLSCSHDFSFEVIPAISSGSIIVVTVFIIALSYVYILVSILKMRSTEGRQKAFSTCTS 273 Sbjct: 186 VMKLACDDIRVNVVYGLIVIISAIGLDSLLISFSYLLILKTVLGL-TREAQAKAFGTCVS 244 Query: 274 HLTAVTLFFGTITFIYVMPQSSYSTDQNK----VVSVFYTVVIPMLNPLIYSFRNKEVKE 329 H+ AV +F+ + FI + +S ++ +++ Y +V P+LNP++Y + KE+++ Sbjct: 245 HVCAVFIFY--VPFIGLSMVHRFSKRRDSPLPVILANIYLLVPPVLNPIVYGVKTKEIRQ 302
- Query: 330 AMKKL 334 + +L Sbjct: 303 RILRL 307

Figure 23: Alignment of 101P3A11-PHOR-1 with the rat GPCR RA1C (gi|3420759).

Identities = 179/299 (59%), Positives = 231/299 (76%), Gaps = 1/299 (0%)

- PHOR: 14 FILIGLPGLEEAQFWLAFPLCSLYLIAVLGNLTIIYIVRTEHSLHEPMYIFLCMLSGIDI 73 F+LIG+PGLEEA FW FPL S+Y +A+ GN +++IVRTE SLH PMY+FLCML+ ID+
- RA1C: 11 FMLIGIPGLEEAHFWFGFPLLSMYAVALFGNCIVVFIVRTERSLHAPMYLFLCMLAAIDL 70
- PHOR: 74 LISTSSMPKMLAIFWFNSTTIQFDACLLQIFAIHSLSGMESTVLLAMAFDRYVAICHPLR 133 +STS+MPK+LA+FWF+S I FDACL Q+F IH+LS +EST+LLAMAFDRYVAICHPLR
- RA1C: 71 ALSTSTMPKILALFWFDSREITFDACLAQMFFIHALSAIESTILLAMAFDRYVAICHPLR 130
- PHOR: 134 HATVLTLPRVTKIGVAAVVRGAALMAPLPVFIKQLPFCRSNILSHSYCLHQDVMKLACDD 193
  HA VL +IG+ A+VRG+ PLP+ IK+L FC SN+LSHSYC+HQDVMKLA D
- RA1C: 131 HAAVLNNTVTVQIGMVALVRGSLFFFPLPLLIKRLAFCHSNVLSHSYCVHQDVMKLAYTD 190
- PHOR: 194 IRVNVVYGLIVIISAIGLDSLLISFSYLLILKTVLGL-TREAQAKAFGTCVSHVCAVFIF 252 NVVYGL I+ +G+D + IS SY LI++ VL L ++ +AKAFGTCVSH+ V F
- RA1C: 191 TLPNVVYGLTAILLVMGVDVMFISLSYFLIIRAVLQLPSKSERAKAFGTCVSHIGVVLAF 250
- PHOR: 253 YVPFIGLSMVHRFSKRRDSPLPVILANIYLLVPPVLNPIVYGVKTKEIRQRILRLFHVA 311
  YVP IGLS+VHRF D + V++ ++YLL+PPV+NPI+YG KTK+IR R+L +F ++
- RA1C: 251 YVPLIGLSVVHRFGNSLDPIVHVLMGDVYLLLPPVINPIIYGAKTKQIRTRVLAMFKIS 309

Figure 24: Alignment of 101P3A11-PHOR-1 with the human prostate specific GPCR. (qi|13540539)

## Identities = 179/299 (59%), Positives = 233/299 (77%), Gaps = 1/299 (0%)

- PHOR: 14 FILIGLPGLEEAQFWLAFPLCSLYLIAVLGNLTIIYIVRTEHSLHEPMYIFLCMLSGIDI 73
  F+LIG+PGLE+A FW+ FPL S+Y++A+ GN +++IVRTE SLH PMY+FLCML+ ID+
  GPCR: 11 FVLIGIPGLEKAHFWVGFPLLSMYVVAMFGNCIVVFIVRTERSLHAPMYLFLCMLAAIDL 70

  PHOR: 74 LISTSSMPKMLAIFWFNSTTIQFDACLLQIFAIHSLSGMESTVLLAMAFDRYVAICHPLR 133
  +STS+MPK+LA+FWF+S I F+ACL Q+F IH+LS +EST+LLAMAFDRYVAICHPLR
  GPCR: 71 ALSTSTMPKILALFWFDSREISFEACLTQMFFIHALSAIESTILLAMAFDRYVAICHPLR 130

  PHOR: 134 HATVLTLPRVTKIGVAAVVRGAALMAPLPVFIKQLPFCRSNILSHSYCLHQDVMKLACDD 193
  HA VL +IG+ AVVRG+ PLP+ IK+L FC SN+LSHSYC+HQDVMKLA D
- GPCR: 131 HAAVLNNTVTAQIGIVAVVRGSLFFFPLPLLIKRLAFCHSNVLSHSYCVHQDVMKLAYAD 190

  PHOR: 194 IRVNVVYGLIVIISAIGLDSLLISFSYLLILKTVLGL-TREAQAKAFGTCVSHVCAVFIF 252

  NVVYGL I+ +G+D + IS SY LI++TVL L ++ +AKAFGTCVSH+ V F

  GPCR: 191 TLPNVVYGLTAILLVMGVDVMFISLSYFLIIRTVLQLPSKSERAKAFGTCVSHIGVVLAF 250
- PHOR: 253 YVPFIGLSMVHRFSKRRDSPLPVILANIYLLVPPVLNPIVYGVKTKEIRQRILRLFHVA 311
  YVP IGLS+VHRF + V++ +IYLL+PPV+NPI+YG KTK+IR R+L +F ++
- GPCR: 251 YVPLIGLSVVHRFGNSLHPIVRVVMGDIYLLLPPVINPIIYGAKTKQIRTRVLAMFKIS 309

Figure 25: Alignment with human olfactory receptor 5II12 (gi|14423836)

Identities = 163/304 (53%), Positives = 214/304 (69%), Gaps = 1/304 (0%)

- PHOR: 7 NESSATYFILIGLPGLEEAQFWLAFPLCSLYLIAVLGNLTIIYIVRTEHSLHEPMYIFLC 66 N + +F+L G+PGLE + WL+ PLC +Y +A+ GN I+ VR E SLHEPMY FL
- HOR5: 5 NVTHPAFFLLTGIPGLESSHSWLSGPLCVMYAVALGGNTVILQAVRVEPSLHEPMYYFLS 64
- PHOR: 67 MLSGIDILISTSSMPKMLAIFWFNSTTIQFDACLLQIFAIHSLSGMESTVLLAMAFDRYV 126 MLS D+ IS +++P +L F N+ I FDACL+Q+F IH S MES +LLAM+FDRYV
- HOR5: 65 MLSFSDVAISMATLPTVLRTFCLNARNITFDACLIQMFLIHFFSMMESGILLAMSFDRYV 124
- PHOR: 127 AICHPLRHATVLTLPRVTKIGVAAVVRGAALMAPLPVFIKQLPFCRSNILSHSYCLHQDV 186
- AIC PLR+ATVLT + +G+ A R + PLP IK+LP CRSN+LSHSYCLH D+ HOR5: 125 AICDPLRYATVLTTEVIAAMGLGAAARSFITLFPLPFLIKRLPICRSNVLSHSYCLHPDM 184
- PHOR: 187 MKLACDDIRVNVVYGLIVIISAIGLDSLLISFSYLLILKTVLGL-TREAQAKAFGTCVSH 245
- M+LAC DI +N +YGL V++S G+D I SY+LIL++V+ +RE + KA TCVSH
- HOR5: 185 MRLACADISINSIYGLFVLVSTFGMDLFFIFLSYVLILRSVMATASREERLKALNTCVSH 244
- PHOR: 246 VCAVFIFYVPFIGLSMVHRFSKRRDSPLPVILANIYLLVPPVLNPIVYGVKTKEIRQRIL 305
- + AV FYVP IG+S VHRF K + V+++N+YL VPPVLNP++Y KTKEIR+ I HOR5: 245 ILAVLAFYVPMIGVSTVHRFGKHVPCYIHVLMSNVYLFVPPVLNPLIYSAKTKEIRRAIF 304
- PHOR: 306 RLFH 309
  - R+FH
- HOR5: 305 RMFH 308